



Project idea form - small projects

Version 2.1

Registration no. (filled in by MA/JS only)

Project Idea Form

Date of submission 05/06/2025

1. Project idea identification

Project idea name	Citizen Network Recovery Protocol
Short name of the project	CNRecovery
Previous calls	yes <input type="radio"/> no <input checked="" type="radio"/>
Seed money support	yes <input type="radio"/> no <input checked="" type="radio"/>

2. Programme priority

1. Innovative societies

3. Programme objective

1.1. Resilient economies and communities
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4. Potential lead applicant

Name of the organisation (original)	Akademia Nauk Stosowanych Stefana Batorego (ANSB)
Name of the organisation (English)	Stefan Batory Academy of Applied Sciences
Website	www.ansb.pl
Country	PL



Type of Partner	Higher education and research institution
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Contact person 1

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Which organisation(s) in the planned partnership take part in a project within the Interreg Baltic Sea Region Programme for the first time? Please list the respective partners.

Stefan Batory Academy of Applied Sciences (ANSB), Skierniewice, Poland (lead applicant).
 Primary School in Godzianów, Poland
 SpartanLab AB, Uppsala, Sweden

5.1 Specific challenge to be addressed

We all rely on the Internet/mobile communication. The Internet provides immediate access to news and messages, but also to basic practical information: paper encyclopedias and guides have disappeared. However, if the Internet were to disappear, there is no alternative to it and people's lives would be completely disorganized. The Internet seems safe and resistant because it was once designed for nuclear war, but its structure has changed and is no longer as amorphous as it was originally. Currently, the Internet is usually delivered to small towns or housing estates by a single cable from a large company (provider). It reaches every home and forms the backbone of the local Internet: without it, even local connections cannot work. This is a critical point and in the event of a crisis (serious failure, power failure, hacker attack), a complete loss of communication is possible. Communication equipment installed in homes (WiFi routers, computer network cards) will remain functional, but will be useless in the absence of the provider's network

The project's task is to create technical, practical and organizational descriptions (manual) on how to locally connect home networks into a larger network covering neighboring homes. The resulting decentralized, amorphous network will be able to locally replace the Internet and provide connectivity.



The network will be completely scalable, i.e. connecting a new home to the network as well as connecting several networks into one will not be a problem.

Equipment available in homes is able to do this, especially if the settlement consists of houses located not too far from each other. However, it will be necessary to install appropriate software and establish rules / procedures for connecting into the network. This must be done in advance. The method must also be easy to perform for ordinary citizens who do not have IT education. It is also important that after restoring normal connectivity, home networks (LAN) can easily be connected to the normal Internet again.

5.2 Focus of the call

In the event of a major internet outage due to a weather disaster or foreign interference (IT attack), small towns and villages are exposed to a longer interruption in access to current information containing an assessment of the situation and recommended behavior than larger cities. This is because in large cities information can be distributed more efficiently, e.g. by mobile loudspeakers. In small towns, villages, etc. such information may arrive later and may also be difficult to verify, which may result in panic and chaos. There is also the problem of feedback, calling for help, etc. problems in unusual situations.

In this project, we want to use the existing internet structure that is present in every home, but is basically useless in the event of a failure of a large network operated by an internet provider. The tools we have, computers and mobile phones, are equipped with screens, which is a great advantage of internet communication.

We want to create the possibility of transforming the modern Internet network configuration into a local configuration. It is enough to provide external connectivity (e.g. satellite or radio) in one place (to one local user, e.g. municipal office, fire station) so that the entire local community has access to information/communication (but probably of lower quality than thanks to the standard Internet). Our project would increase a security of living in small communities in a case of of internet network failure.

6. Transnational relevance

International cooperation is essential for the system of restoring connectivity to operate not only within one country, but also to connect border areas in different countries.

The challenge is the same in all countries: inhabitants of small communities are particularly vulnerable to being cut off from the flow of information in crisis situations.

Our project aims to change this, but it must be based on the specific conditions of the organization of the Internet in a given place. In the conditions of the Central European Plain (Poland, but also other countries in the region), connecting home WiFi networks as an alternative way of communication is a natural idea. However, this does not necessarily have to be the case in coastal conditions (Lithuania), on the Scandinavian Peninsula (Sweden) or on the border of the Arctic region (Finland, Oulu). Therefore, in addition to developing a common general method of restoring connectivity, it is necessary to develop its variants specific to the environment of operation of each of the project



partners.

Initially, the connection will always be restored very locally, within the boundaries of a single village, but the proposed solution is very scalable and the local restored networks can naturally connect into larger and larger units. Theoretically, a network covering the entire globe could be created. It is therefore very likely that the networks from individual countries will come into contact with each other. Then, thanks to the fact that they were all created in international cooperation, they will be able to connect with each other, providing cross-border connectivity.

7. Specific aims to be addressed

Building trust that could lead to further cooperation initiatives

N/A

Initiating and keeping networks that are important for the BSR

N/A

Bringing the Programme closer to the citizens

The proposed Project introduces the Interreg BS program to citizens in two ways:

- 1) The beneficiaries of the program are citizens of small communities where knowledge about the program is none. Information about the source of financing and a brief description we intend to put in the description of the protocol ("product" of the project) will be for them the first source of knowledge about INTERREG. Citizens who will take part in the test of the proposed protocol in the actual conditions of a small village will get acquainted with the topic of in detail: we intend to carry out an information campaign to acquire additional test participants (in addition to those already declared by one of the partners)
- 2) Most project partners have never cooperated with INTERREG, therefore participation in this project has important information significance for them. In particular, this applies to the leading partner for whom the project is the most serious EU undertaking in which it participated.

Allowing a swift response to unpredictable and urgent challenges

The proposed project enables a local (group of neighbors) response to a sudden loss of connectivity in small communities. Cutting citizens off from the flow of information in a crisis situation not only makes it difficult to combat the situation itself but also causes phenomena leading to the disintegration of the community, such as the spread of rumors or panic. It also facilitates deliberate disinformation. The project focuses on restoring the operation of the Internet network, which has been identified as key to connectivity in small communities. At the same time, the Internet in small communities has an unobvious susceptibility to decomposition, which in a crisis situation can lead to its disappearance. The

project will provide instructions for restoring connectivity. The project emphasizes actions on a local scale, assuming a complete loss of connectivity with larger centers.

8. Target groups

The implementation of the project requires the cooperation of professionals with knowledge in the field of IT and citizens, residents of small communities, who will be the main beneficiaries of the project's results. IT know-how will be provided by universities involved in the project, while cooperation with citizens will be ensured by the participation of a local primary school, which is owned by the Commune Office in Godzianów (Poland).

To enable modifications to WiFi firmware that go deeper than software modification, you will need the expert knowledge of an IT company that specializes in non-standard solutions.

Please use the drop-down list to define up to five target groups that you will involve through your project's activities.	Please define a field of responsibility or an economic sector of the selected target group	Specify the countries and regions that the representatives of this target group come from.
1. Higher education and research institution	Project management IT know-how Contact with citizen	Poland, Lithuania, Finland
2. Small and medium enterprise	IT expertise	Sweden
3. Education/training centre and school	Contact with citizens and local authorities	Poland

9. Contribution to the EU Strategy for the Baltic Sea Region

Please indicate if your project idea has the potential to contribute to the implementation of the Action Plan of the EU Strategy for the Baltic Sea Region (<https://eusbsr.eu/implementation/>).

yes ☐ no ☒

The MA/JS may share your project idea form with the respective policy area coordinator(s) of the EUSBSR. You can find contacts of PACs at the EUSBSR website (<https://eusbsr.eu/contact-us/>).

☐ If you disagree, please tick here.

10. Partnership

The collaboration:

P1) Stefan Batory Academy of Applied Sciences (ANSB), Skierniewice, Poland (lead partner).



P2) Primary School in Godzianów, Poland (local government owned)
P3) Applied Research and Project Activities Center, Klaipeda, Lithuania
P4) SpartanLab AB, Uppsala, Sweden
P5) University of Oulu, 6G Test Centre, Finland

Partner P1 will be responsible for project administration, organization, IT work and contacts with citizens

Partner P2 will be responsible for contacts with local citizens and authorities in order to prepare the test in a real village.

Partners P3, P4, P5 will be responsible for IT work and for adapting the project result to local conditions in their countries

Partner P4 will be responsible for deep hardware modifications, difficult for other partners.

All partners will participate in creating the final product of the Project: a detailed description of the Citizen Network Recovery Protocol (CNRP) application

11. Workplan

The aim of the project and the product is a manual for the implementation of the Citizen Network Recovery Protocol (CNRP) in the local community.

Topics:

1) Development of the method itself, hardware and software

H1:

A demonstrator will be created. This will simulate a village internet consisting of home LANs. It will be installed on the campus of the leading partner (ANSB). At the start the system will be simple, typical configurations will be tested to demonstrate the method. Although the demonstrator will be created in Poland, all project partners will work on it (tests and software/hardware selection).

H2:

The demonstrator will be tested in Finland, Lithuania and Sweden, in specific local conditions (house distances, LAN structure).

ANSB demonstrator will be developed, more hardware types and more complex configurations will be tested. Creating a system using dedicated equipment will also be considered.

Topics to study:

i) convenience of using the system:

a) simple for a layman

b) after the crisis situation is over, it is possible to easily return to normal use of the Internet

ii) the ability to connect smartphones (local substitute for the GPS network)

iii) a security scheme taking into account both actions without malicious intent (e.g. incorrect configuration of one of the computers) and deliberate attacks.

H3:

Test of CNRP protocol in the actual conditions of a small village. It will consist of launching the system



in a group of several real houses, for a few hours.

About 10 people associated with the project partner (local school) have already declared their participation, but we will find more volunteers thanks to the information campaign.

Perhaps during the test, real home networks will be supplemented with artificial ones, similar to those that the initial demonstrator will consist of.

2) writing the appropriate manual

H4:

The last 6-month period will be devoted to summarizing and developing the appropriate manual. It will be available for free on the web, but will be in a form that can be printed on paper. This is very important, because thanks to this it will be possible to browse without using a computer.

The text will be prepared in English and in the national languages of the project partners.

The text will take into account the specific conditions in the country of each partner, and

3) Supporting activities

a) Every 2 months, an online meeting of all project partners will be organized to discuss current progress

b) We are planning two general live meetings: a kick-off meeting in H1 and a meeting summarizing the tests and organizing work on creating the manual (H3/H4)

12. Planned budget

ERDF budget (planned expenditure of partners from the EU)	EUR 420,000.00
Norwegian budget (planned expenditure of partners from Norway)	EUR XXX
Total budget (including preparatory costs)	EUR 420,000.00

13. Project consultation

Please indicate if you wish to have a consultation (online meeting) with the MA/JS to discuss your project idea

yes ☒ no ☐

14. Questions to the MA/JS

Questions related to the content of the planned project *(max.1.000 characters incl. spaces)*

Questions related to budgeting and expenditure *(max.1.000 characters incl. spaces)*





Any other questions

Is the organisation of the kick-off meeting obligatory for the lead partner?

15. Additional information

(max. 1.000 characters incl. spaces)

Your account in BAMOS+

Please remember that to officially submit your application you need to access our electronic data exchange system BAMOS+. More information about the process of applying for your account in BAMOS+ you will find here:

<https://interreg-baltic.eu/gateway/bamos-account>

